

Victory Track, Field and Court Renovations (Phase II)

Town of
Watertown

Community Informational Meeting
Watertown Free Public Library
September 11, 2014, 7:00 PM

Watertown Savings Bank Room
September 17, 2014, 7:00 PM

**CDM
Smith**

Introduction

Peter Centola, Director of Recreation

- **Introductions**
- Recommendation of the Town Council – Proceed with the project to reconstruct the track, tennis and basketball courts, and surrounding area of Victory Field , (Phase 2) with the caveat that prior to bringing forward the loan order, the Administration shall hold community meetings to develop a design proposal and have one or more informational presentations to the Town Council.
- **Project Overview**
- **Project Committee**
 - Steve Magoon, Director of Community Planning and Development, Assistant Town Manager
 - Peter Centola, Director of Recreation
 - Michael Lahiff, Director of Athletics
 - Gerald Mee Jr., Superintendent of Public Works
 - Donna Ruseckas, Director of Wellness and Extended Services
 - Gideon Schreiber , Senior Planner
 - Matthew Shuman, Town Engineer
 - Tom Tracy, Town Auditor
- **Victory Field Phase I Video**

A Day In The Life of Victory Field

Special thanks to our Watertown High School graduate, current Tufts University student and Watertown Recreation Department tennis instructor Jake Hellman for providing this entertaining, and informative video depicting the “A Day in the Life of Victory Field”

Please sit back and enjoy!

Meetings Held to Date

- May 15th 2014 – Stormwater Advisory Committee
- June 5th 2014 – Upper Marion Street Abutters Meeting
- June 16th 2014 – Department of Public Works
- June 30th 2014 – Police Dept. Meeting with Leadership
- August 20th 2014 – Kickoff meeting and Committee Formation
- September 3rd Conservation Commission
- September 4rd 2014 – Department of Public Works

Phase I – A True Success Story

Peter Centola, Director of Recreation

The Victory Field Phase I project completed in 2011, Re-dedicated September 9, 2012

- Provided numerous benefits to Watertown
- State of the art facilities for active and passive recreation, social interaction and spectator comfort
- Enhanced School Department Athletics, Parks and Recreation, and Wellness in Watertown activities programming
- Expanded early and late season facility use and simultaneous use by multiple user groups
- Title IX compliance, closer at hand
- Revenue producing and reduced athletic field maintenance
- Reduced stormwater flows and compliance with current codes of practice and stormwater ordinance
- Increased accessibility and opportunities for open and free play



Watertown Athletic Programming Summary and Needs Assessment

Michael Lahiff, Director of Athletics, WPS

- Current Programming
- Playability
- Title IX getting all teams to play on turf
- Different game on turf
- Turf is the norm athletic surface in surrounding communities
- Track brought up to league standards

2014 - Synthetic Turf Field Inventory – Middlesex League

- Arlington (1)
- Belmont (1)
- Burlington (2)
- Lexington (3)
- Melrose (1)
- Reading (3)
- Stoneham (0)
- Wakefield (4)
- Watertown (1)
- Wilmington (1)
- Winchester (1)
- Woburn (2)



Wellness in Watertown

Donna Ruseckas, Director of Wellness and Extended Services, WPS

- Providing Quality Facilities for Physical Education
- Extended Opportunity for Wellness
- Highlights Since Phase I

Project Activities to Date

- Victory Field Phase I opened Nov. 2011, Re-dedicated Sept. 9 2012
- Victory Track, Field and Court Renovations Phase II Activities
 - Track inspections conducted in 2006
 - Geotechnical Investigations conducted in 2008
 - Topographic survey obtained in 2010
 - Preliminary design phase authorized Fall 2013
 - Conceptual lighting diagrams obtained Fall 2013
 - Preliminary design phase Concept Plan completed Spring 2014
 - Final Design phase authorized August 2014
 - Final design committee formed August 2014
 - Department of Public Works, Project Committee, Police Dept.
 - Katherine Road property abutting retaining wall evaluation – September 2014

Existing Conditions & Analysis



Existing Conditions Issues

- Phase I highly successful
- Need to accommodate current athletic, youth and adult programming and access
- Vehicle circulation within the site is difficult/safety issues
- Poorly defined parking – visitors parking on grass
- Parking lot in poor condition
- Track and field event amenities are in poor condition
- Field play limited by seasonal impacts and turf condition
- Field play limited to daylight hours – no lighting
- Tennis and basketball courts are in poor condition
- Poor site drainage – challenging conditions in spring
- Limited passive park features on site – benches/tables etc.
- Play area surfacing in poor condition

Existing Conditions Issues Cont.

- Katherine Road abutters retaining wall and fencing
- Marion Road abutters property line and fencing
- Current storage containers unsightly
- Insufficient bleacher/seating for field and track events
- Lights for tennis and basketball outdated not connected to control link
- Existing floodlights outdated – impacts to abutters
- Site amenities outdated – benches, drinking fountains etc.

Proposed Project Elements

- 28 additional parking spaces, including (4) new accessible parking spaces. 66 total spaces on site with a home bus drop off and pick up zone
- Reconstructed 400 meter 6 lane track including an 8 lane sprint track
- Rubberized "D" area with field event facilities for shot put, high jump, long jump, triple jump, javelin, pole vault and discus throw
- Reconstructed multi-purpose court/rink and 5 tennis courts
- Additional spectator bleachers for field, track, tennis and multi-purpose court/rink
- Contemplative seating areas
- Enhanced storm water infiltration
- Central patio area for gatherings with picnic tables
- Artificial turf field 330' x 210'
- Ball safety system netting on both ends of the field

Proposed Project Elements

- Traffic calming raised cross walks
- Tot-lot resurfacing
- Additional landscaping, including planting of new trees
- 6 new workout stations
- Accessibility improvements
- Sports field lighting
- Track lighting
- Parking lot lighting
- Equipment Appropriate storage units
- Potential future field house expansion (Phase III)
- Drinking fountains and water spigots
- Bike racks
- Security cameras
- Wireless internet

Proposed Project Concept Plan



Victory Track, Field and Court Renovations- Phase II

Primary Improvements Presentations

- Artificial Turf - Glenn Howard, CDM Smith
- Lighting - Mike Berry, MUSCO
- Stormwater Control - Glenn Howard, CDM Smith
- Parking – Peter Centola, Director of Recreation

“Infill” Artificial Turf as a Sustainable Alternative to Natural Turf



- Wakefield Landrigan Field 2014



- Wakefield Beasley Field 2014

- Reduces runoff
- No irrigation
- No fertilizer
- No mowing
- No herbicides or pesticides
- Lower maintenance
- No play limits (quantity or time of year)
- Improved safety
- Potential for shared use to offset costs
- Lower cost long term

Ideal Turf Characteristics for Sports Fields:

- Resilient – cushion falls, reduce injuries
- Firm – for good footing
- Pest and disease free
- Wear tolerant
- Dense plant stand
- Minimum water requirements
- Low maintenance
- Allows early spring and late fall play



Why communities are choosing artificial turf for the majority of their field renovation projects:

- Increase in demands for field use
- Limited field space
- Fields not designed for current uses
- Increase in hours of use
- No time to rest fields
- Early spring & late fall use demands
- New England weather



• Plymouth Forges Field 1998



• Victory Field Phase I 2012

Cost Comparison Natural vs. Artificial Turf

Cost Comparison of Natural Turf Field and Artificial Turf Field (8 Year Cycle)

Construction Costs (for 100,000 sf field)

Natural Turf Field	Range	Artificial Turf Field	Range
Seed & mulch/sand based sod	\$20,000 – \$70,000	2.5 inch carpet w/2" rubber-sand infill	\$425,000 – \$525,000
Grow-in maintenance and security	\$25,000 – \$10,000	12 inch stone base	\$250,000 – \$250,000
6 inch sandy loam layer	\$50,000 – \$60,000	Concrete edge restraint	\$30,000 – \$35,000
6 inch sandy gravel drainage layer	\$30,000 – \$40,000	Underdrain system	\$70,000 – \$80,000
Underdrain system	\$30,000 – \$50,000	Subgrade preparation allowance	\$15,000 – \$15,000
Subgrade preparation allowance	\$15,000 – \$15,000		
Irrigation system, service & controls	\$35,000 – \$50,000		
TOTAL	\$205,000 – \$295,000	TOTAL	\$790,000 – \$905,000

Construction costs do not include engineering fees, contingencies and other implementation costs.

Construction Cost (average)
Natural Turf = \$250,000
Artificial Turf = \$848,000

Annual Maintenance and Refurbishing Costs

Natural Turf Field	Annual Cost	Artificial Turf Field	Annual Cost
Insect control (1x @\$550)	\$600	Field grooming & GMAX testing (2x@\$3000)	\$6,000
Crabgrass / weed control (1x@\$600)	\$600	Seasonal field line painting (2x@\$2,500)	\$5,000
Core aeration (1x@\$500)	\$500	Miscellaneous repairs	\$1,500
Deep tine aeration (1x@\$2,500)	\$2,500	SUBTOTAL ANNUAL MAINTENANCE	\$12,500
Top dress (1x@\$4,000)	\$4,000		
Slice seed (2x@\$1,500)	\$3,000		
Fertilizer (3x\$500)	\$1,500		
Lime (1x@\$800)	\$800		
Irrigation maintenance	\$2,000		
Mowing (26x@\$250)	\$6,500		
Field line painting	\$3,000		
Irrigation water allowance	\$2,500		
Miscellaneous	\$500		
SUBTOTAL ANNUAL MAINTENANCE	\$28,000		
8 year cycle maintenance cost	\$224,000		
Field renovation (sod) (year 6 @ \$100,000)	\$100,000		
TOTAL 8 YEAR COSTS	\$324,000		

Maintenance Costs 8 Year Cycle
Natural Turf = \$324,000
Artificial Turf = \$100,000

TOTAL 8 Year Cycle Costs
Natural Turf = \$574,000
Artificial Turf = \$948,000

Number of Plays (annual and per 8 year cycle)

Natural Turf Field	Annual	8 years	Artificial Turf Field	Annual	8 years
7 mos @ 30 days less 15% rain days @ 1 play per day	179	1432	9 mos @ 30 days @ 2 plays per day	540	4320
2 year field loss for establishment & repairs	179	-358	Down time for establishment or repair	none	
Number of plays in 8 year cycle		1074			4320

TOTAL Costs per Play (2 hour game)
Natural Turf = \$535
Artificial Turf = \$220

Artificial Turf with Lights = \$198
Artificial Turf with Lights & Replacement = \$266

All costs estimated March 2008.

Artificial Turf Safety

- Athlete safety/injury comparisons
- Health Concerns

Heatup of field

Staph infections

Micro-organism /

bacterial growth

VOC & PATH levels

Inhalation / Ingestion of rubber

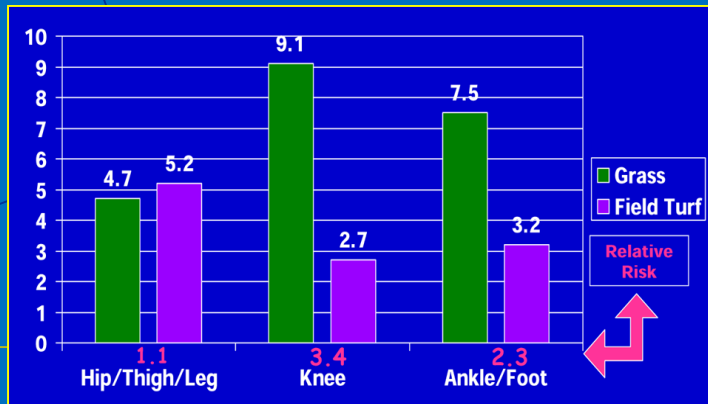
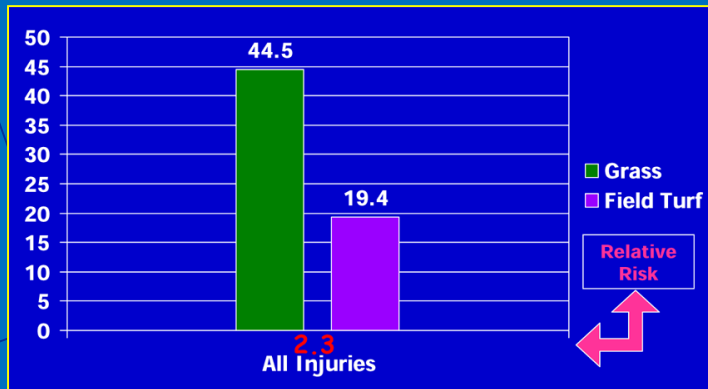
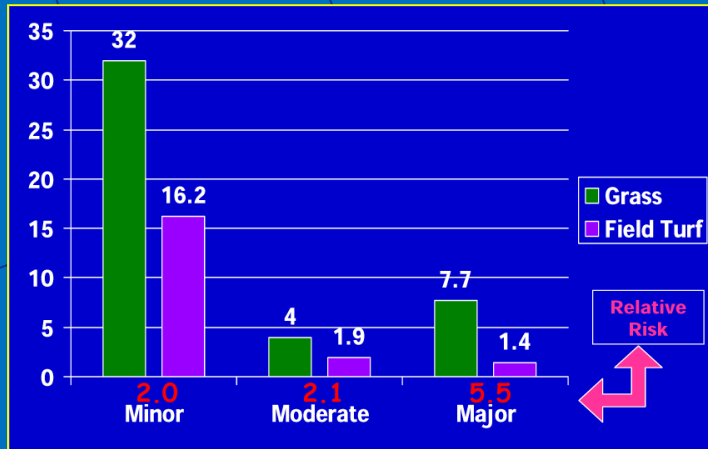
Silicosis (inhalation of silica sand)

Dermal / oral exposure to SBR rubber

Lead content

Others

Artificial Turf Safety



- Penn State evaluation
- Panhandle Sports Medicine Institute injury analysis
- NCAA Injury Surveillance System
- NFL Health and Safety Survey

Conclusion:
“Infill artificial turf safer than natural grass”

2014 - Synthetic Turf Field Inventory – 20 +/- mile radius

= Communities within the Middlesex League

Listed in order of distance from Watertown

- # Belmont (1)
- Waltham (5)
- Newton (1), - (3) – Planning 1
- Brighton-Allston (0) – Planning 1
- Cambridge (1), - (4) – Planning 2
- # Arlington (1)
- Brookline (2), - (3)
- Somerville (2)
- Medford (2)
- Weston (1), Planning 1
- # Lexington (2), - (3)
- Roxbury (2)
- Back Bay/Fens (1), - Planning 1
- Jamaica Plain (1), - (2)
- # Winchester (1)
- South End (1)
- Wellesley (2)
- Charlestown (2)
- West Roxbury (0), Planning 2
- Dorchester (1)
- South Boston (1)
- East Boston (1)
- Malden (1), (5)
- # Woburn (1), (2)
- Lincoln (0)
- Everett (1)
- Needham (3)
- # Melrose (1)
- # Stoneham (0)
- Saugus (0)
- Lynn (2)
- Chelsea (1)
- Winthrop (0)
- Concord (1), (2)
- Sudbury (4)
- Framingham (1)
- Natick (0), - (1) – Planning 1
- Norwood (1), - (2)
- Revere (1) – Constructing 1
- # Burlington (1), - (2)
- Westwood (1), - (2)
- Medfield (1)
- Milton (1)
- Quincy (1), Planning 1
- Acton-Boxboro (1)
- Holliston (1)
- # Wakefield (0), - (4)
- # Reading (2), - (3)

**90% of towns/cities
within 20 mile radius**

Does not include colleges, universities or private high schools

Lighting

Mike Berry, MUSCO

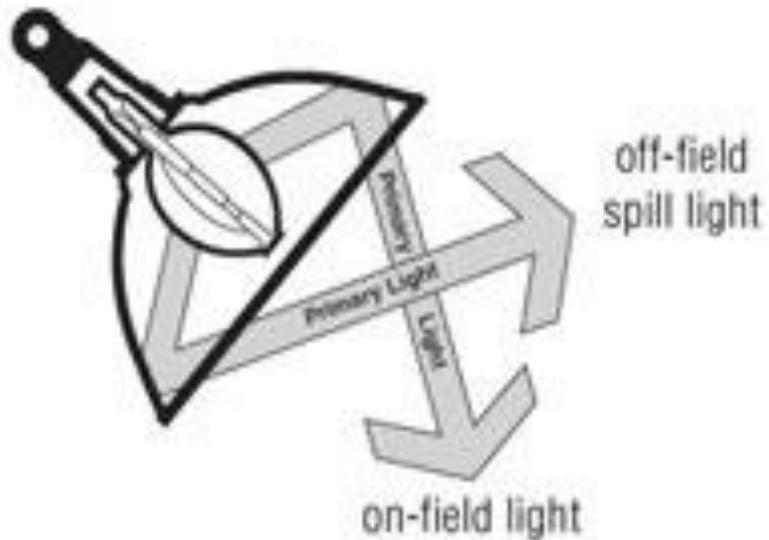
Evolution of Light Control





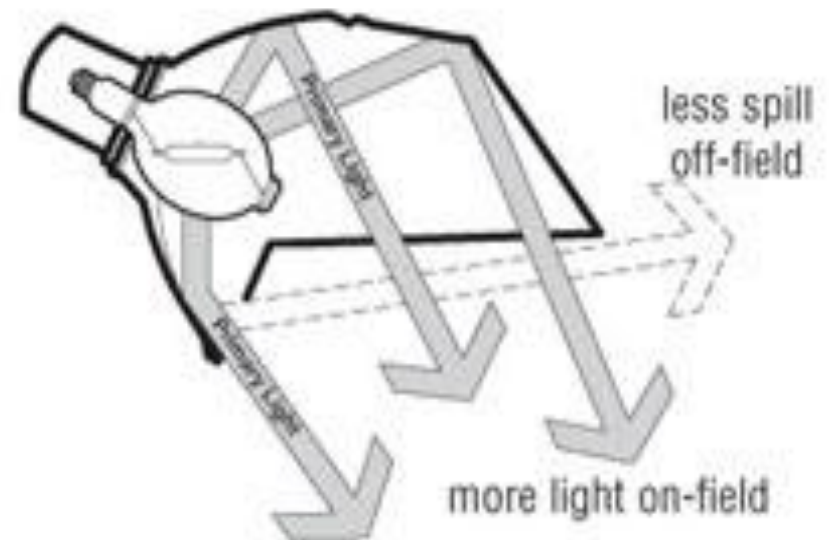
Victory Track, Field and Court Renovations – Phase II

Old Generation



Standard Symmetrical Reflector

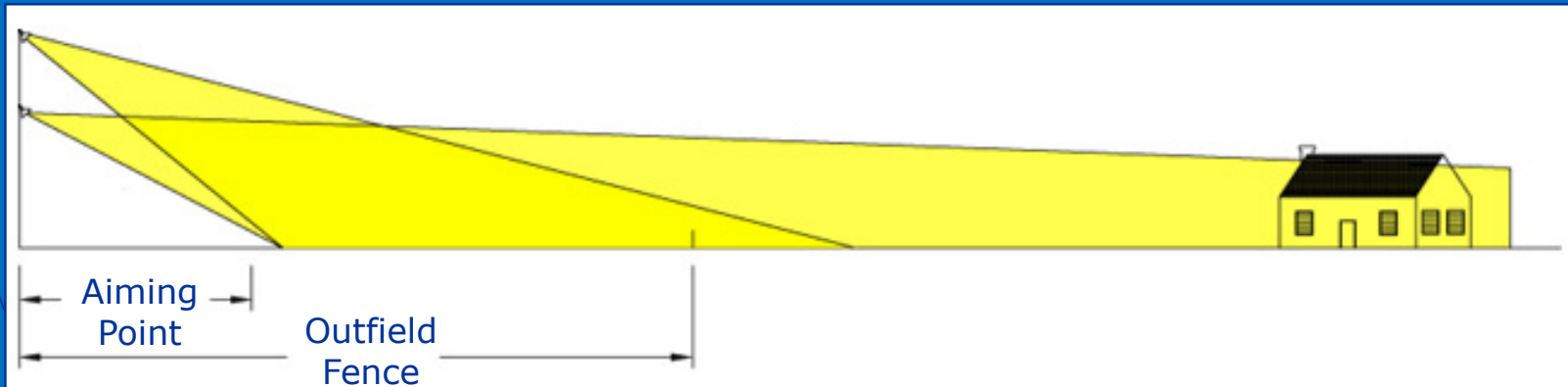
New Technology



Redirects Off-Field Spill Light

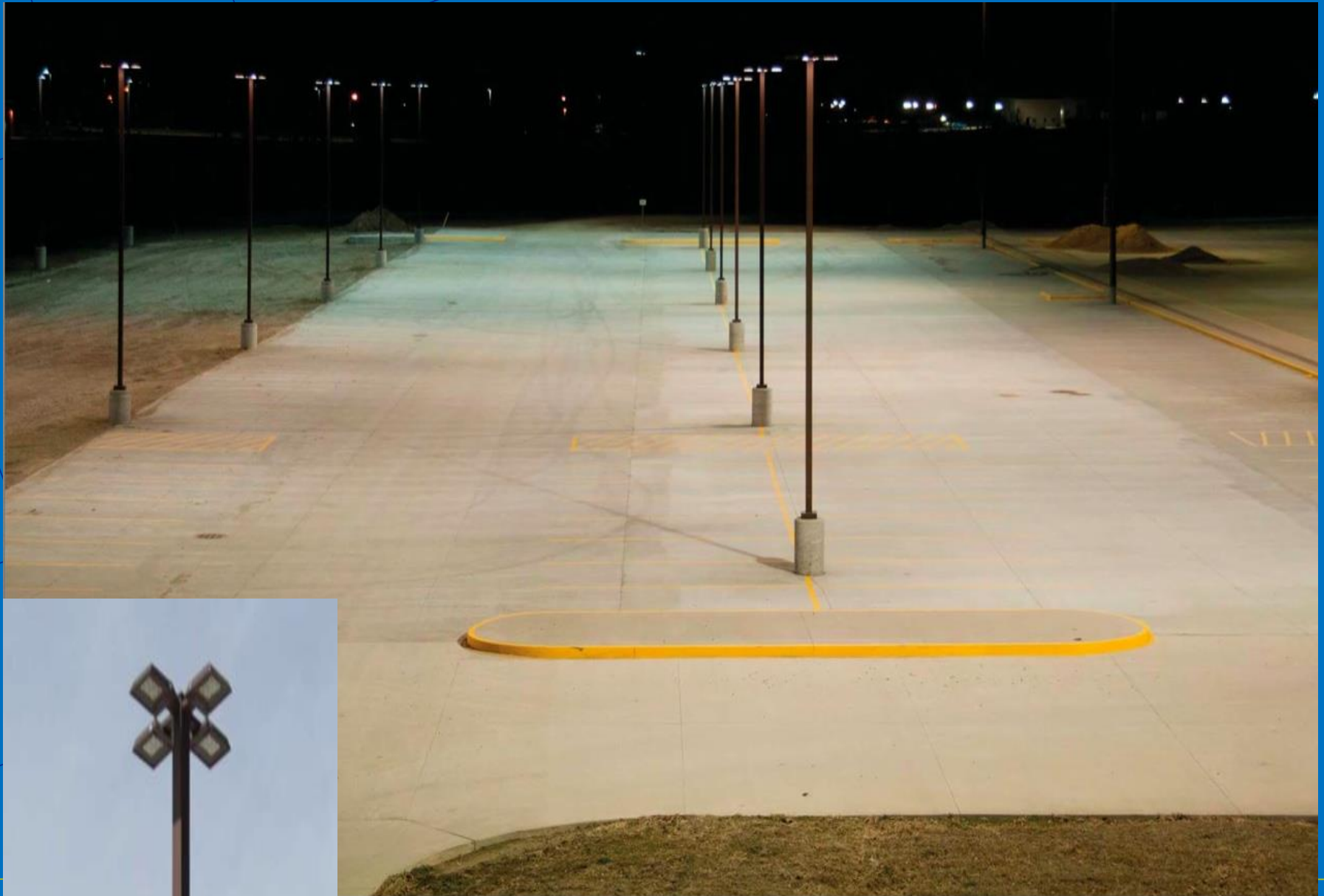
MOUNTING HEIGHTS-

Taller poles ensure proper aiming angles, decrease glare for players, and decrease off-site spill light.



Low Mounting Heights-Blinding Lights





Storm Water Control and Approach to Drainage

Parking and Court subsurface detention and infiltration systems

- Useful under impervious surfaces and open areas
- High groundwater, bedrock separation needed (3 ft.)



Storm Water Control and Approach to Drainage

Artificial Turf Athletic Fields

- Allows for custom design of field drainage System to store, infiltrate and release stormwater to meet local stormwater codes and practice



Artificial turf stone base – 35% void ratio in stone for stormwater storage



Victory Field Stormwater Outlet Control Structure

- Existing access driveway narrow with no easy way to turn around to exit facility
- Vehicle and pedestrian conflicts between Phase I and Phase II
- Few parking spaces available to support the current activities
- Parking area in poor condition with people parking on the grass between existing trees.
- Park users park on neighborhood streets when lot is full.
- Stormwater is released directly from pavement into the storm drain system. Stormwater quality not being addressed in current design

Project Budget Summary

CDM Smith Estimate

- Site preparation and removals.....\$150,000-\$200,000
- Artificial turf multi-purpose field.....\$650,000-\$700,000
- Track and Field Appurtenances.....\$350,000-\$375,000
- Courts Renovation.....\$250,000-\$300,000
- Parking and access drive improvements..... \$100,000- \$125,000
- Drainage system for courts and parking area.....\$100,000-\$125,000
- Field, court, and parking lot lighting and electrical.....\$550,000 (MUSCO)
- Play Area Resurfacing.....\$125,000-\$150,000
- *Perimeter fencing and netting systems.....\$100,000
- Bleachers\$100,000
- Patio Area.....\$35,000
- Miscellaneous site appurtenances.....\$50,000 - \$60,000
- Landscaping and seeding.....\$30,000 - \$40,000
- **Subtotal Project Improvements.....\$2,590,000 - \$2,860,000**
- Contractor Overhead and profit @ 8%.....\$210,000 - \$230,000
- Construction contingency @ 10%.....\$260,000 - \$285,000
- **Total Project.....\$3,060,000 - \$3,375,000**
- *Does not include property line fencing for Marion Road and Katherine Road Abutters
(Final design to be determined)
- Does not include Katherine Road retaining wall repairs (final design to be determined)

Questions/Comments